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10/773,991

02/06/2004

Robert K. Barr

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EXAMINER

ASHTON, ROSEMARY E

ART UNIT

PAPER NUMBER

1752

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|-----------|---------------|
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3 MONTHS

03/23/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | | |
|------------------------------|---------------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 10/773,991 | Applicant(s) BARR ET AL. | |
| | Examiner Rosemary E. Ashton | Art Unit 1752 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5,7,11-13 and 15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5,7,11-13,15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Applicant amended claim 5 to include a specific photoinitiator system that is a quinone or an acyl ester of triethanolamine photoinitiator and a sensitizer of a cyclopentanone. This photoinitiator system is known in the art.

3. Claims 5, 7, 11-13, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mooney, III et al. U.S. pat. no. 5,744,280 in view of Kuchta, U.S. pat. No. 5,112,721 and further in view of Kangas et al. U.S. pat. No. 5,563,023 and Applicant's admission in the specification.

Mooney teaches all of reagents in applicant's photopolymerizable compositions except cyclopentanone. The composition is shown in Example 2 below. The leuco dye is used as the color changing dye. The composition includes a quinone (9,10-Phenanthrenequinone) and an acyl ester of triethanolamine (Triethanolamine Triacetate) is in amended claims 5 and 13. At least one leuco dye is used a color former (col. 15).

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| Ingredient Name | Amount (g) |
|--|------------|
| Acetone | 72.0160 |
| 2-Propanol | 7.9840 |
| Dodecylbenzenesulfonic acid (DDBSA) | 0.1200 |
| TCTM-HABI | 0.3295 |
| Syloid ® 63 | 0.5685 |
| Syloid ® 620 | 0.1082 |
| Merpol ® OPP 2660 | 2.3567 |
| N-ethyl-para-toluenesulfonamide (Santicizer ® 3) | 2.6410 |
| Triethanolamine triacetate | 1.8158 |
| 9,10-Phenanthrenequinone | 0.1020 |
| CAB-381-20 | 8.1202 |
| (Cellulose acetate butyrate, 20 sec viscosity) | |
| CAB-381-0.5 | 4.0601 |
| (Cellulose acetate butyrate, 0.5 sec viscosity) | |

Kuchta teaches photopolymerizable compositions use sensitizers such as cyclopentanone based compounds which act upon irradiation to enhance resolution. The cyclopentanone compounds are co-sensitizer to HABI (col.6, line 23). Kuchta teaches the co-sensitizer increases photospeed and resolution (col. 1) Kuchta further teaches additional color formers such as leuco dyes (col. 17).

It would have been obvious to one of ordinary skill in the art to add a cyclopentanone based compound as a co-sensitizer to the composition of Mooney with a reasonable expectation of obtaining an improved photopolymerizable composition because Kuchta teaches addition of the co-sensitizer increases photospeed and resolution of the composition.

Neither Mooney nor Kuchta teaches using 5 mW or less to affect the color change. However, it is disclosed by applicant that the usage of more than 5mW would result in a hazardous environment for the workers (specification, page 3). Therefore, one of ordinary skill in the art would be motivated to use power of 5mW or less.

Mooney teaches the imageable composition is coated on a substrate and covered by a protective layer. It does not teach adhesive layers.

Kangas teaches a photoimageable element comprising a metallic substrate (item a below), a photosensitive composition on the substrate (item b below) and a layer of an adhesive coated on a

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second side of the substrate (item d). The photosensitive layer (item b) is coated with a protective polymer layer as in claim 7 (item c).

9. A photoimageable element comprising:

(a) metallic substrate coated with a primer layer on a first side

(b) a layer of photosensitive composition

*(c) a protective overcoating comprising an oxygen barrier polymeric material
antiblocking particulate material*

(d) a layer of pressure adhesive material coated on a second side of the substrate

(e) a release liner covering the pressure sensitive adhesive

The photoimageable element may be a negative or positive acting photoresist as shown in column 1, lines 10-23.

Kangas teaches making photoimageable elements having a photosensitive composition (imaging composition) on a substrate which has an adhesive applied to the opposite side . (see Kangas' claim 9 and col. 2, lines 8-12).

It would have been obvious to one of ordinary skill in the art to use an adhesive on the opposite side of the substrate with releasing ability in order to place the resulting image on an additional work piece if desired. As stated in col. 9 of Kangas:

The metal-based photoimageable elements of the present invention can be used as printing plates, photolabels, e.g., metal labels, signs, plaques, and a variety of other applications.

Thus, it would have been obvious to one of ordinary skill in the art to use the photosensitive composition of Mooney and Kuchta in the invention of Kanga with a reasonable expectation of obtaining an improved photopolymerizable composition because Kangas teaches the protective overcoating avoids deactivation of the polymerization reaction by oxygen (col. 5. line 50) and the adhesive allows for application of different substrates.

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As to the use of exposure to 5 mW or less, as stated above, it is disclosed by applicant that the usage of more than 5mW would result in a hazardous environment for the workers (Specification, page 3). Therefore, one of ordinary skill in the art would be motivated to use power of 5mW or less.

4. Applicant's arguments with respect to claims 5,7,11-13,15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rosemary E. Ashton whose telephone number is 571-272-1326. The examiner can normally be reached on Mon-Fri, 11:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Rosemary E. Ashton
Primary Examiner
Art Unit 1752

319/07

**ROSEMARY ASHTON
PRIMARY EXAMINER**